Community medicine for clinicians in Canada: a recommendation for postgraduate training

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Many public health problems today stem from the prevalence of chronic disability and degenerative disease in an ageing population. The management of illness and disability, other than efforts to prevent or postpone death, is a routine component of much clinical practice. Clinicians are thus largely responsible for managing chronic disease, and to fulfil this role effectively and efficiently they need epidemiologic and community medicine skills.

However, a major gap presently exists between the health needs of the community and the training received by health professionals. Physicians lack knowledge of the prevalence of many health problems, particularly those related to human behaviour; factors predisposing to psychologic, social and physical illness; and the effectiveness of current methods of disease management. Increased importance needs to be placed on such issues as quality of life, patients' well-being and the multiple effects of chronic disease, disability and ageing.[1] These issues represent a new type of public health problem that requires an innovative approach involving more applied research, particularly in the areas of primary care and community-based management.

Recent publications on community-oriented primary care thoroughly examine the concept of integrating community medicine and clinical practice.[2-4] While primary care is a particularly important area of community medicine, specialists in many other fields can benefit from acquiring community medicine skills: such skills would facilitate the comprehensive management of the health problems they are faced with.

Components of community medicine and clinical epidemiology have become part of residents' postgraduate training in some clinical programs in Canada, and clinical epidemiology and critical appraisal are now routinely taught in a few programs in family medicine, internal medicine, pediatrics, psychiatry, and obstetrics and gynecology.* In addition, the College of Family Physicians of Canada[5] includes aspects of community medicine and applied research in its postgraduate training objectives (limited academic resources, however, make the attainment of these goals difficult). These developments are commendable, but because of a lack of commitment in terms of both postgraduate training time and human resources, training in applied research and community-oriented clinical skills is not sufficiently widespread. Furthermore, there is disagreement about the role of the specialty of community medicine. Although some argue that the programs in community medicine of the Royal College of Physicians and Surgeons of Canada should provide postgraduate training in community medicine skills, these programs primarily provide training in public health.

For Canadian clinicians to become proficient in the management of the evolving community health problems of the 1980s and 1990s an educational strategy in clinical community medicine is needed. It is inadequate to establish educational objectives if the means of achieving these objectives are not provided. It is insufficient to have residency programs in community medicine that are nonclinical.

Definition of clinical community medicine

I propose the following definition of clinical community medicine: the application of epidemiology and behavioural sciences to clinical practice for the purpose of providing comprehensive and effective health care. It comprises a group of basic disciplines with application in various degrees to all forms of clinical practice but is not in itself a discrete area of practice. Clinical community medicine is very relevant to specialties such as pediatrics, psychiatry, internal medicine and obstetrics. The disciplines constituting clinical community medicine form the basis of much of the philosophy and definition of family medicine and have their greatest application in family practice.

The premise underlying this definition is that disease and illness are not isolated phenomena but are interrelated with the patient's social and physical environment and therefore need to be addressed within this context. Physicians must acquire knowledge that will allow them to better understand their patients' dis-

Parts of this paper were presented at the Workshop on the Rationalization of Graduate Training for Physicians in Community Medicine, Ottawa, Mar. 29–30, 1983, organized by the Department of National Health and Welfare.

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*Courses in clinical epidemiology and critical appraisal have been started at McMaster University's department of clinical epidemiology and biostatistics in collaboration with a number of clinical departments at several Ontario universities. Within the last 4 years the department has also conducted workshops on critical appraisal for teachers that have been attended by representatives from all health sciences faculties in Ontario and from faculties in other provinces and the United States.

orders and to manage these disorders effectively and without added harm. To do this physicians need a combination of epidemiologic, clinical and behavioural skills drawn from both clinical and community medicine.

Clinical community medicine can be defined under seven headings.

- Prevention. This involves first identifying patients with risk factors that predispose them to chronic degenerative diseases, accidents, mental disorders and social problems. This step is followed by recommendation of effective treatment, if it exists, or a trial of some unproven strategy designed to lessen the risk. These risk factors include obesity, unhealthy eating habits, precocious sexual intercourse with many partners, smoking, excessive consumption of alcohol, ineffective coping behaviour and failure to wear a seat belt.
- Screening. This involves the use of simple tests to identify patients needing thorough investigation for such disorders as bowel cancer, breast cancer, cervical cancer, hypertension or congenital defects.
- Diagnosis. This involves comprehensively defining the patient's problem by including the relevant economic, behavioural and environmental, as well as medical, components.
- Management. This involves the use of plans and resources that frequently extend well beyond the prescription pad. These may include public health services, community-based allied health professionals, transport services, voluntary societies, self-help groups, recreational facilities, social services, neighbours, and friends and family.
- Measurement and evaluation of the frequency distribution of particular types of health problems. This provides a scientific definition of health problems within a given practice population. As the prevalence of many types of morbidity is not known, much research needs to be done in this area, especially for practice populations with specific characteristics, socioeconomic subgroups of practice populations and particular types of problems, such as functional incapacity and psychosocial disability.
- Investigation of risk factors for physical disease, behavioural morbidity and maladaptation to chronic disease. This allows the clinician to identify patients at increased risk both for disease processes and for the loss of well-being that occurs in response to disease or suspected disease.
- Evaluation of the effectiveness of interventions. This incorporates the evaluation of preventive measures, screening tests, diagnostic tests and community management strategies.

Strategy for training

The inclusion of training in clinical community medicine in some of the major clinical postgraduate programs could be achieved relatively easily from the administrative standpoint. The Royal College training requirements for the specialties of internal medicine, pediatrics, psychiatry, and obstetrics and gynecology allow one relatively flexible year of research, special study or basic science appropriate to the clinical discipline. Similarly, a number of programs in family medicine support a third year of training tailored to the resident's interests and requirements. In both cases it would be possible to design a year of clinical community medicine training that was directly applicable to clinical practice in the particular discipline and accredited and funded by the parent program. In some instances no added allocation of residency positions would be needed. Such a year should be planned by clinicians and taught jointly by clinicians and community physicians.

The implementation of a curriculum in community medicine for clinical residents should include three important steps, the first of which is faculty development. Clinical teachers in a given residency program need to master the material to make it relevant to their own field of practice. Program administrators would need to train faculty or acquire teachers with excellent knowledge of clinical epidemiology, behavioural sciences and research methods. Once this stage had been satisfactorily completed a primarily research year in clinical community medicine would have to be designed for a few selected residents. Training in research needs to be carried out initially because so little applied knowledge exists concerning clinical community medicine. The third step, which would be implemented gradually as knowledge developed, would involve increasing the number of residents admitted to the program and emphasizing content knowledge of disease management in addition to applied research.

After completing a year of training in clinical community medicine residents would proceed to certification in their clinical specialty. They would be primarily clinicians with special interest and training in clinical community medicine and would not need to pursue added Royal College certification in community medicine unless they wanted double certification.

The initiative and responsibility for implementing this plan should be taken by administrators of clinical programs. The role of academic departments of epidemiology should be that of consultants or collaborators, not principals.

This strategy would enable the clinical sector of the medical profession to enhance its capacity to address community health issues. Implementation of a similar plan at McMaster University and some other Canadian universities is resulting in clinician-initiated applied research, and increasingly clinicians are directing educational programs in clinical epidemiology for their own residents. There would be several benefits associated with wide use of this strategy. First, the training of clinicians in community medicine would focus attention on a relatively underdeveloped area of clinical practice. Second, community health issues would be addressed to a greater extent than they now are. Finally, as existing resources are probably sufficient for the faculty development phase and for the inclusion of a research year in clinical community medicine, implementation of this strategy would not require acquisition of new resources.

Summary

A large gap presently exists between the predominantly biologic expertise of the medical profession

and the complex mixture of biologic, behavioural and epidemiologic components of health problems today. Furthermore, the development of community medicine in Canada has been relatively separate from that of the clinical disciplines. To enable clinicians to acquire the knowledge and skills to manage these health problems, much more community-oriented research, applied behavioural science and clinical epidemiology is needed within the clinical sector of medicine.

I have proposed a definition of clinical community medicine and presented a strategy for training clinicians in community medicine skills that calls for administrators of clinical postgraduate programs to develop training in clinical community medicine. Residency programs in community medicine cannot be expected to provide such training given their nonclinical priorities, which focus mainly on the training of public health physicians.

This work has been supported by a special health studies grant (RD 113C) from the Ontario Ministry of Health.

References

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2. KARK SL: *The Practice of Community-Oriented Primary Health Care*, ACC, New York, 1981
3. MULLAN F: Community-oriented primary care: an agenda for the '80s. *N Engl J Med* 1982; 307: 1076–1078
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NEW BOOKS OF INTEREST

This list is an acknowledgement of the books received that we intend to send out for review.

CARBON MONOXIDE. The Silent Killer (Bannerstone Division of American Lectures in Environmental Studies ser., publ. no. 1059). Roy J. Shephard. 220 pp. Illust. Charles C. Thomas, Publisher, Springfield, Illinois, 1983. $29.75 (US). ISBN 0-398-04850-9

THE CLINICIAN'S GUIDE TO DIAGNOSTIC IMAGING. Zachary D. Grossman, David A. Ellis, Stephen C. Brigham. 262 pp. Raven Press, New York, 1983. $14 (US), paperbound. ISBN 0-89004-948-3

THE PHARMACOLOGIC APPROACH TO THE CRITICALLY ILL PATIENT. Edited by Bart Chernow and C. Raymond Lake. 799 pp. Illust. Williams & Wilkins, Baltimore, 1983. $96 (US). ISBN 0-683-01520-6

PRINCES AND PEASANTS. Smallpox in History. Donald R. Hopkins. 380 pp. Illust. University of Chicago Press, Chicago, 1983. $25 (US). ISBN 0-226-35176-9

TEXTBOOK OF DISORDERS AND INJURIES OF THE MUSCULOSKELETAL SYSTEM. 2nd ed. An Introduction to Orthopaedics, Fractures and Joint Injuries, Rheumatology, Metabolic Bone Disease and Rehabilitation. Robert Bruce Salter. 578 pp. Illust. Williams & Wilkins, Baltimore, 1983. $39.75 (US). ISBN 0-683-07500-4